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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,571	08/27/2003	Christopher Oriakhi	200300745-1	8233

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EXAMINER

BALDWIN, GORDON

ART UNIT PAPER NUMBER

1775

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,571

Applicant(s)

ORIAKHI ET AL.

Examiner

Gordon R. Baldwin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20050919.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 20-25 in the reply filed on 1/13/2006 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 24 is rejected under 35 U.S.C. 112 (1) for the use of a negative limitation in the description of the pores for the hydrates particles. In the specification, applicant states, the composition as, "having surface pores no larger than about 10 microns on average", which indicates that the pores can, under 50 percent of the time, be over 10 microns, which does not support the negative limitation of claim 24 and is in violation of MPEP 2173 (i) for negative limitations. MPEP 2173 (i) requires, "Any negative limitation or exclusionary proviso must have basis in the original disclosure." Therefore, the negative limitation of claim 24 is deemed not to have a basis in the original disclosure and is in violation of 35 U.S.C. 112(1).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Bredt (Pub. No. 2002/0026982 A1).

Consider claim 20 and 23, Bredt describes three-dimensional printing processes with multiple layering systems to construct 3D structures. (Para. 0006) The powder or particle composition (also referred to as cement (Para 0029 lines 23-24)) is mixed with an aqueous solution, referred to as a “hydrated plaster.” (Para. 0029) This mixture is shown in figure (3) to be delivered in a layer form by and ink-jet process. (Para. 0025) Bredt also teaches that calcium phosphate, which is also considered to encompass hydroxyapatite (which is a trade name for tertiary calcium phosphate; manufactured by Yoneyama Chemical Co., Ltd.), may be used as a coating material, to be mixed with a polymeric binder. (Para. 0016) Additionally, Bredt teaches the use of calcium phosphate (Para. 0016) as a particulate coating, and it is considered to be an inorganic phosphate.

Consider claim 21, Bredt teaches the use of a soluble starch (Para 0029) as a polymeric particulate, to be used in the particle composition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bredt (Pub. No. 2002/0026982 A1).

Consider claim 22, Bredt teaches that the aqueous fluid, that includes plaster (which includes starch (Para. 0029) is mixed (Para. 0033), but Bredt does not specifically teach the use of a low molecular weight polymer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a low molecular weight polymer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416.

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bredt (Pub. No. 2002/0026982 A1) and further in view of Sachs (Pat. No. 5,204,055).

Consider claim 24, Bredt teaches the claimed invention except for the composition's pores being less than 10 microns on average. However, Sachs teaches the use of an ink-jettable composition, where the powdered particles, disposed in a wet state, can be of the size of about 5 microns or smaller. The pore sizes of these particles

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would obviously have pores smaller than 10 microns due to their own size being smaller than 10 microns. (Col. 5 lines 24-30) It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the ink-jettable composition of Bredt with the composition particle size of Sachs to make for a smoother layer upon the drying of the composition.

Consider claim 25, Saches teaches that upon drying the binder/powder composition substantially maintains its size and shape. (Col. 7 lines 5-17)


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GRB


JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
4/17/06